

# Multiplying Integers

## Specific Curriculum Outcome

SCO: By the end of grade 7,  
students will be expected to  
**B12 multiply integers concretely,  
pictorially, and symbolically  
to solve problems**

# Multiplying Integers

First before we cover how to multiply integers we need to learn how to read questions properly.

If we looked at this question

$$5 \times 6$$

We would normally say "five times six"

We could also say "five groups of six" because multiplying is finding groups of numbers.

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We could write the same question and change its appearance by adding the proper signs.

$5 \times 6$  is the same as  $(+5) \times (+6)$

Now we could read the question and include the signs we added.

It would now say "add five groups of positive six."

# Multiplying Integers

Here is another example

$$(-4) \times (+3) =$$

This question would read "take away four groups of positive three."

The rules for reading these questions:

- 1) Read the first sign as either add or take away instead of positive or negative.
- 2) Read the multiplication sign as groups of.
- 3) Read the second sign as positive or negative.

# Multiplying Integers

Now write the sentence following the rules for the ten multiplication questions.

1.  $(-2) \times (+4) =$

2.  $(+4) \times (-3) =$

3.  $(-5) \times (-2) =$

4.  $(+6) \times (-3) =$

5.  $(+7) \times (+4) =$

6.  $(-3)(-2) =$

7.  $(-4) \times 2 =$

8.  $9(-2) =$

9.  $(-3) \times (-6) =$

10.  $(-8) \times (-1) =$

# Multiplying Integers

Now your actually ready to multiply integers

The first thing you need to recall is the zero balance, but now we are going to call it a **zero charge**. It could also be called a **neutral charge**.

# Multiplying Integers



Here we have a simple brown bag, but you need to use your imagination. Imagine it is full of integer counters and no matter what number of integer counters there are in the bag they are always at a zero charge, which means there is an equal number of positives and negatives.

# Multiplying Integers



Now what does a brown bag with a zero charge have to do with multiplying integers?

**Everything!**

Its all about putting things in and taking things out of the bag, or adding and taking away

# Multiplying Integers



So here we go, the bag has a zero charge to start with. We take a question like  $(-4) \times (+3)$  and we say "take away 4 groups of positive 3." Where do we take them from?

The Bag



Our Answer

If we take 4 groups of positive 3 out of the bag what is the charge left in the bag?

# Multiplying Integers

Try these 8 questions on for size!

$$(-5) \times (-2) =$$



$$(+3) \times (-3) =$$



$$(-6) \times (+4) =$$



$$(-4) \times (-3) =$$



$$(+6) \times (-7) =$$



$$(-7) \times 3 =$$



$$(-6) \times (-2) =$$



$$(+3) \times (-9) =$$



